flush electrode structure can provide a smoother surface on the body structure being treated while minimizing the depth of ablation and necrosis.

IN THE CLAIMS:

Please cancel claims 81, 83, 86, 91, 93, 100, 101 and 107, amend claims 80, 84, 92, 98, 99, 102 and 105, 106, 108 and 109 and add claims 110-143 as follows:

80. (Amended) An electrosurgical system for smoothing body structures having an irregular surface:

an electrosurgical instrument having a shaft with a proximal end and a distal end;

an electrode terminal disposed at or near the distal end of the shaft;

an electrically insulating support member at or near the distal end of the instrument shaft, wherein the electrode terminal is flush with a tissue treatment surface of the support member;

a return electrode spaced from the electrode terminal such that when a portion of the electrode terminal is brought adjacent the irregular surface of the body structure immersed in electrically conductive fluid, the electrode terminal is positioned between the return electrode and the body structure and the electrically conductive fluid completes a conduction path between the electrode terminal and the return electrode;

at least one connector disposed near the proximal end of the shaft for electrically coupling the electrode terminal and the return electrode to a high frequency voltage source; and

wherein the electrode terminal is sized and constructed to deliver sufficient energy to an irregular surface of a body structure to at least partially smooth the irregular surface of the body structure.

81. Canceled.

83. Canceled.

84. (Amended) The system of claim 80 wherein the electrode terminal comprises a tissue treatment surface and a second surface opposite the tissue treatment surface and spaced from the tissue treatment surface in a tissue treatment direction, and wherein the return electrode is spaced about 0.5 to 25 mm in the tissue treatment direction from the second opposite surface of the electrode terminal [in a direction away from the body structure when the electrode terminal is brought adjacent a tissue structure].

86. Canceled.

91. (Amended) The system of claim [82] 83 wherein the electrically conductive fluid has originated from an external source outside of the patient' s body.

92. (Amended) The system of claim [82] 83 wherein the electrically conductive fluid comprises isotonic saline.

93. Canceled.

98. (Amended) The system of claim 80 wherein the [distal surface of] the electrode terminal comprises a distal surface having [has] a shape selected from the group consisting essentially of flat, concave, convex, hemispherical, pyramidal, conical and cylindrical.

99. (Amended) The system of claim 80 further comprising a temperature sensor adjacent to the electrode terminal [and electrically coupled to the high frequency voltage source] for controlling power delivery to the electrode terminal based on temperature at the target site.

100. Canceled

101. Canceled.

sub D7

102. (Amended) An electrosurgical system for smoothing body structures having an irregular surface:

an electrosurgical instrument having a shaft with a proximal end portion and a distal end portion;

an active electrode disposed at the distal end portion of the shaft and having a tissue treatment surface;

B6 an electrically insulating support member at or near the distal end of the instrument shaft, wherein the tissue treatment surface of the active electrode is flush with a tissue treatment surface of the support member;

a return electrode;

a high frequency power source;

at least one connector disposed near the proximal end portion of the shaft [for] electrically coupling the active and return electrodes to [a] the high frequency power source; [and]

an electrically insulating member at the distal end of the shaft coupled to the active electrode, the electrically insulating member being configured to space the active electrode from the irregular surface of the body structure; and

a fluid delivery element for delivering electrically conductive fluid between the active electrode and the body structure.

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105. (Amended) The system of claim ~~102~~ further comprising a temperature sensor on the distal end portion of the instrument [for measuring a temperature at the temperature sensor].

B7 sub D8

106. (Amended) The system of claim 105 further comprising a temperature controller coupled to the temperature sensor and the high frequency power source for regulating the power applied to the electrode terminal based on the temperature at the target site.

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107. Canceled.

108. (Amended) The system of claim 106 wherein the temperature controller adjusts the output voltage of the high frequency power supply in response to a temperature set point and the measured temperature value received from the temperature sensor.

109. (Amended) The system of claim 106 wherein the temperature controller limits or interrupts current flow to the active electrode when the temperature [at the target site] of the temperature sensor reaches a threshold value.

Please add claims 110-143 as follows:

--110. (New) An electrosurgical system for smoothing body structures having an irregular surface:

an electrosurgical instrument having a shaft with a proximal end and a distal end;

an electrode terminal disposed at or near the distal end of the shaft;

a return electrode;

an electrically insulating support member at or near the distal end of the instrument shaft, wherein the electrode terminal is flush with a tissue treatment surface of the support member,

at least one connector disposed near the proximal end of the shaft for electrically coupling the electrode terminal and the return electrode to a high frequency voltage source;

a temperature sensor adjacent to the electrode terminal and electrically coupled to the high frequency voltage source for controlling power delivery to the electrode terminal based on temperature at the target site; and

wherein the electrode terminal is sized and constructed to deliver sufficient energy to an irregular surface of a body structure to at least partially smooth the irregular surface of the body structure.

111. (New) The system of claim 110 wherein the electrode terminal is configured to deliver sufficient energy to smooth the irregular surface of the articular cartilage while minimizing the depth of ablation and necrosis in the articular cartilage.

112. (New) The system of claim 110 wherein the return electrode is spaced from the electrode terminal such that when a portion of the electrode terminal is brought adjacent the irregular surface of the body structure immersed in electrically conductive fluid, the electrode terminal is positioned between the return electrode and the body structure and the electrically conductive fluid completes a conduction path between the electrode terminal and the return electrode.

113. (New) The system of claim ~~110~~ wherein the electrode terminal comprises a tissue treatment surface and a second surface opposite the tissue treatment surface and spaced from the tissue treatment surface in a tissue treatment direction, and wherein the return electrode is spaced about 0.5 to 25 mm in the tissue treatment direction from the second opposite surface of the electrode terminal.

114. (New) The system of claim ~~110~~ wherein the return electrode is positioned on the shaft proximal to the electrode terminal.

115. (New) The system of claim 110 wherein the return electrode is a dispersive return pad configured for positioning on an external surface of the patient.

116. (New) The system of claim 110 wherein the electrode terminal is configured to deliver sufficient energy to ablate at least a portion of cartilage strands on the irregular surface of the articular cartilage to smooth said surface.

117. (New) The system of claim 110 wherein the electrode terminal is configured to deliver sufficient energy to heat at least a portion of cartilage strands on the irregular surface of the articular cartilage to smooth said surface.

118. (New) The system of claim 110 wherein the electrode terminal comprises a single electrode disposed near the distal end of an instrument shaft.

119. (New) The system of claim 110 wherein the electrode terminal includes an array of electrically isolated electrode terminals disposed near the distal end of an instrument shaft.

120. (New) The system of claim 112 wherein the electrically conductive fluid has originated from an external source outside of the patient's body.

121. (New) The system of claim 112 wherein the electrically conductive fluid comprises isotonic saline.

122. (New) The system of claim 80 further comprising a fluid delivery element for delivering electrically conductive fluid to the electrode terminal.

123. (New) The system of claim ~~122~~ wherein the fluid delivery element comprises a fluid lumen on the shaft of the instrument.

124. (New) The system of claim 110 further comprising a temperature controller coupled to the temperature sensor for regulating the power applied to the electrode terminal based on the temperature at the target site.

125. (New) The system of claim 124 further comprising a high frequency power supply, wherein the temperature controller adjusts the output voltage of the high

frequency power supply in response to a temperature set point and the measured temperature value received from the temperature sensor.

126. (New) The system of claim 124 wherein the temperature controller limits or interrupts current flow to the active electrode when the temperature of the temperature sensor reaches a threshold value.

127. (New) An electrosurgical system for smoothing body structures having an irregular surface:

an electrosurgical instrument having a shaft with a proximal end and a distal end;

an electrode terminal disposed at or near the distal end of the shaft;

a return electrode;

an electrically insulating support member having a tissue treatment surface at or near the distal end of the instrument shaft, wherein the electrode terminal is recessed by at least 0.05 mm from the tissue treatment surface of the support member;

at least one connector disposed near the proximal end of the shaft for electrically coupling the electrode terminal and the return electrode to a high frequency voltage source; and

wherein the electrode terminal is sized and constructed to deliver sufficient energy to an irregular surface of a body structure to at least partially smooth the irregular surface of the body structure.

128. (New) The system of claim 127 wherein the electrode terminal is configured to deliver sufficient energy to smooth the irregular surface of the articular cartilage while minimizing the depth of ablation and necrosis in the articular cartilage.

129. (New) The system of claim 127 wherein the return electrode is spaced from the electrode terminal such that when a portion of the electrode terminal is brought

adjacent the irregular surface of the body structure immersed in electrically conductive fluid, the electrode terminal is positioned between the return electrode and the body structure and the electrically conductive fluid completes a conduction path between the electrode terminal and the return electrode.

130. (New) The system of claim 127 wherein the electrode terminal comprises a tissue treatment surface and a second surface opposite the tissue treatment surface and spaced from the tissue treatment surface in a tissue treatment direction, and wherein the return electrode is spaced about 0.5 to 25 mm in the tissue treatment direction from the second opposite surface of the electrode terminal.

131. (New) The system of claim 127 wherein the return electrode is positioned on the shaft proximal to the electrode terminal.

132. (New) The system of claim 127 wherein the return electrode is a dispersive return pad configured for positioning on an external surface of the patient.

133. (New) The system of claim 127 wherein the electrode terminal is configured to deliver sufficient energy to ablate at least a portion of cartilage strands on the irregular surface of the articular cartilage to smooth said surface.

134. (New) The system of claim 127 wherein the electrode terminal is configured to deliver sufficient energy to heat at least a portion of cartilage strands on the irregular surface of the articular cartilage to smooth said surface.

135. (New) The system of claim 127 wherein the electrode terminal comprises a single electrode disposed near the distal end of an instrument shaft.

136. (New) The system of claim 127 wherein the electrode terminal includes an array of electrically isolated electrode terminals disposed near the distal end of an instrument shaft.

137. (New) The system of claim 129 wherein the electrically conductive fluid has originated from an external source outside of the patient's body.

138. (New) The system of claim 129 wherein the electrically conductive fluid comprises isotonic saline.

139. (New) The system of claim 127 further comprising a fluid delivery element for delivering electrically conductive fluid to the electrode terminal.

140. (New) The system of claim 139 wherein the fluid delivery element comprises a fluid lumen on the shaft of the instrument.

141. (New) The system of ~~claim 127~~ further comprising a high frequency voltage source coupled to the electrode terminal and the return electrode, the voltage source having an operating voltage between about 10 volts RMS and 1000 volts RMS.

142. (New) The system of claim 127 wherein the electrode terminal is disposed over a lateral surface of an electrode support member near the distal end of the instrument shaft.

143. (New) The system of claim 127 further comprising a temperature sensor adjacent to the electrode terminal for controlling power delivery to the electrode terminal.